

Journal of Applied Statistics >

Volume 46, 2019 - [Issue 12](#)

409 | 19 | 0
Views | CrossRef citations to date | Altmetric

Application Note

Identification of technical analysis patterns with smoothing splines for bitcoin prices

Nikolay Miller, Yiming Yang, Bruce Sun & Guoyi Zhang 

Pages 2289-2297 | Received 11 Aug 2018, Accepted 01 Feb 2019, Published online: 16 Feb 2019

 Cite this article  <https://doi.org/10.1080/02664763.2019.1580251>



Sample our
Mathematics & Statistics
Journals
>> **Sign in here** to start your access
to the latest two volumes for 14 days

 Full Article  Figures & data  References  Citations  Metrics

 Reprints & Permissions

Read this article

Share

ABSTRACT

This research studies automatic price pattern search procedure for bitcoin cryptocurrency based on 1-min price data. To achieve this, search algorithm is proposed based on nonparametric regression method of smoothing splines. We investigate some well-known technical analysis patterns and construct algorithmic trading strategy to evaluate the effectiveness of the patterns. We found that method of smoothing splines for identifying the technical analysis patterns and that strategies based on certain technical analysis patterns yield returns that significantly exceed results of unconditional trading strategies.

KEYWORDS:

[← Previous article](#)[View issue table of contents](#)[Next article →](#)

Acknowledgments

The authors thank the referees and associate editor for their careful reading of the manuscript and would like to express sincere appreciation for their helpful comments.

Disclosure statement

No potential conflict of interest was reported by the authors.

Related research

[People also read](#)[Recommended articles](#)[Cited by
19](#)[A High-Frequency Algorithmic Trading Strategy for Cryptocurrency >](#)

Au Vo et al.

Journal of Computer Information Systems

Published online: 7 Dec 2018

Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2026 Informa UK Limited [Privacy policy](#)

[Cookies](#) [Terms & conditions](#) [Accessibility](#)

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG



Taylor & Francis
by informa